



FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS



First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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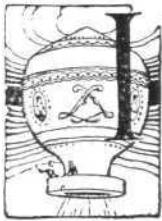
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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list :—

1926	
April 21	Inst. Ae. E. visit to Mess: s. D. Napier and Son, Acton.
April 22	Capt. G. T. R. Hill. "The Tailless Aeroplane," before R. Ae. S.
April 29	Lieut.-Col. V. C. Richmond. "Results of Recent Airship Flight Tests," before R. Ae. S.
May 11	Capt. W. H. Sayers. "The Modern Theory of Aerofoils and its Application to Aeroplane Design," before Inst. Ae. E.
May 19	Inst. Ae. E. visit to the National Physical Laboratory, Teddington.
May 30	Gordon-Bennett Balloon Race, Antwerp.
June 12	Inst. Ae. E. visit to Croydon Aerodrome.
July	German Seaplane Competition at Warnemunde.
Aug. 9-15	French Light 'Plane Competition.
Sept. 10-17	Two-Seater Light Aeroplane Competition, Lympne.
Sept. 18	Grosvenor Challenge Cup, at Lympne.

EDITORIAL COMMENT.



IN describing the regulations and arrangements for the German "Rundflug" last year we commented on the clever manner in which the course had been laid out with the object in view of affording as many of the public as possible an opportunity of seeing the competing machines, and thus creating a much wider interest than could be expected were the course confined to a circuit of one particular city, no matter how important in itself. At the time we expressed the hope that in future, British competitions might be planned along somewhat similar lines, and it is therefore with considerable satisfaction that we now learn from the Royal Aero Club that at least two of the competitions to be held during the coming summer will, as regards the courses to be covered, be closely similar to the *Deutsche Rundflug*.

The Light 'Plane competition for the *Daily Mail* prize, which has been postponed until September, will have its headquarters at the Lympne aerodrome as in previous years, but competing machines, instead of circling around the triangular course Lympne-Postling-South Hill, will radiate, so to speak, from Lympne to the following South Coast towns: Brighton, Eastbourne, Hastings, Dover, Ramsgate, Margate, Herne Bay, and Croydon. The full regulations are not available until next week, but we gather that the intention is that machines should each day fly out to one of these towns and back, once to the more distant ones and twice to the nearer ones, or in some cases out to one town and back in the morning and to another town and back in the afternoon. Thus, there should be an excellent opportunity for visitors to the various seaside resorts to see the competing machines, and it may be expected that in this way a very much greater interest will centre on the competition. Lympne is not exactly centrally situated, but it scores through having excellent accommodation for the machines, a good aerodrome, and surrounding country providing plenty of open spaces suitable for forced landings, so that there is

much to be said for retaining it as the headquarters of the competition.

The race for the King's Cup, which has been tentatively fixed for July 9 and 10, will be planned in a somewhat similar way, the machines radiating out from the London Aerodrome, Hendon, to which they will return each journey, and visiting various provincial towns. The "Rundflug" proved that this arrangement not only enables a very large number of people to see the machines, but usually provincial towns to which machines fly are willing to put up prizes for the first machines to reach them, so that extra inducement to competitors is secured. The location of English towns in relation to the capital is not quite so favourable as that of German cities, with Berlin approximately in the centre of a circle, around the circumference of which many large cities are located, but for all that the scheme as applied to our conditions is the next best, and we are very glad that this innovation has been decided upon.

Progress in Germany

In this week's issue of FLIGHT will be found an illustrated description of a new interesting German commercial aeroplane which is, as far as we are aware, the first really practical civil machine to incorporate the Lachmann-Handley Page slotted wings. The machine has been built by the famous Albatros works of Berlin-Johannisthal to the order of the German publishing firm *Verlag Ullstein*, the machine being required for the carriage of newspapers, and consequently being provided with special chutes for the dropping of parcels of 10 kilos. each.

It is a somewhat curious reflection on the manner in which the problem of civil aviation is attacked in the two countries that Germany, tied as she is hand and foot, should not only be planning no less than 39 air lines for this year, but should be the first nation to realise in practical form the advantages of the slotted wing. It is true, of course, that in this country machines have been built with this device, but they have been service machines. So far no machine intended for commercial aviation has been in use on the air lines, and in fact we are still carrying on with *recently built* twin-engined machines which, whatever may have been their merits when the type was first produced several years ago, cannot now be said to be the last word in commercial aircraft.

Alan Cobham's Next Venture

MR. ALAN COBHAM, unable to remain on *terra firma* much longer, is now making active preparations for his next jaunt—to Australia and back. He hopes to start within a few weeks' time and will fly the same D.H.50 used for the London-Cape-London flight—and probably the same Siddeley "Jaguar" engine.

Danish Flight to Tokyo

LIEUT. BOTVED, one of the two Danish airmen who are flying from Denmark to Tokyo (his companion having crashed near Bangkok), reached Hanoi on April 10, and by April 12 he arrived at Canton.

The Wilkins Arctic Flight

REPAIRS having been effected to the single-engined Fokker monoplane which Capt. Wilkins is employing, together with a three-engined machine, in his aerial explorations into the North Polar regions, a start was made on March 31 for the first flight from Fairbanks (Alaska) to Point Barrow, which will be the base for the flights over the Arctic Sea. The machine piloted by Carl Eielren, carried 200 gallons of petrol for the

A Great Adventure

The arrival at Pulham from Rome, and its departure for Oslo, of the airship *Norge* has focussed attention on the attempt which Capt. Roald Amundsen and his companions are about to make to reach the North Pole by airship. Since the earliest days of aeronautics explorers have dreamt of reaching the inaccessible regions around the "top of the world" by air, the first to make the attempt, in a free balloon, being Amundsen's compatriot André, who disappeared without leaving a trace. Captain Amundsen's gallant attempt to reach the North Pole last year in two Dornier flying-boats with Rolls-Royce engines failed, although the party did reach a greater latitude than any hitherto attained by heavier-than-air craft. Whether the gallant Norwegian explorer will be more successful this year remains to be seen. In some ways the airship may be, as Amundsen believes, a more suitable craft, but to us it seems that the risk of snow and ice collecting on the airship and forcing it down is one of the most serious dangers likely to be encountered. Head winds will cause delay, but an airship can, after its fuel is consumed, drift long distances as a free balloon. A thick layer of snow on top of the envelope, however, may result in so weighting the airship down that only by throwing overboard everything movable can it be kept afloat. If the explorers are fortunate enough not to encounter snowstorms, there does not seem to be any other grave reason why they should not succeed, and all our readers will join with us in wishing them every possible good fortune.

Successful Long-Distance Work

By the return to the Haeren aerodrome at Brussels of the three Belgian aviators Lieut. Medaets, Lieut. Verhaegen, and Adjutant Coppens, another meritorious long-distance flight has been brought to a successful conclusion, and the out and home flight from Belgium to the Congo and back has been accomplished. Our heartiest congratulations to the gallant Belgian aviators, and to the whole Belgian nation. At the same time it is satisfactory to be able to extend also congratulations to the R.A.F. squadron under Wing Commander Pulford, which has successfully accomplished the outward stage of its flight from Cairo to the Cape and back. May the return journey be as successful.

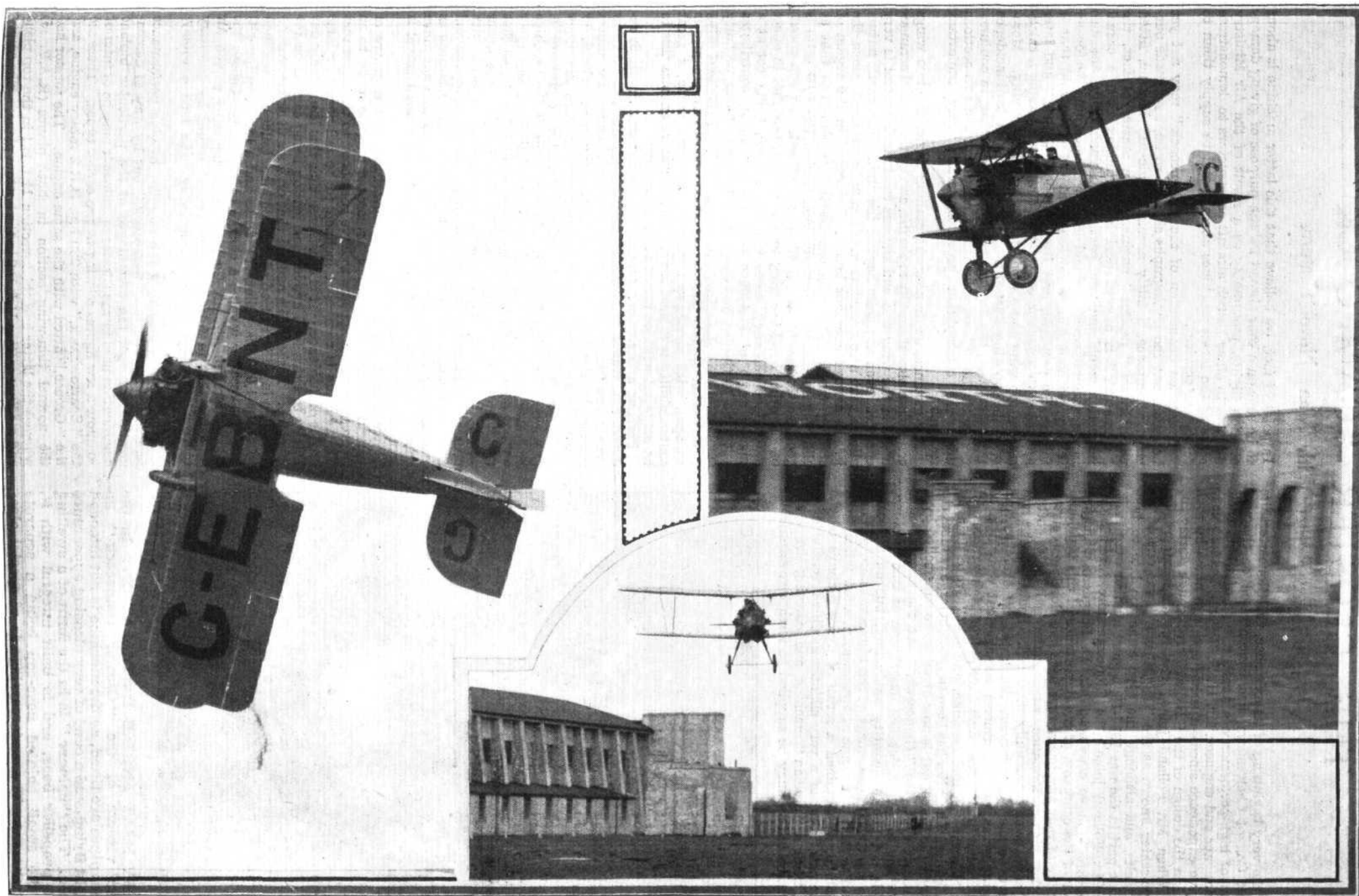
store at Point Barrow—it being the intention of making several such journeys, transporting fuel and supplies to the northern base. The 600 miles between Fairbanks and Point Barrow was made in safety, in fact, the machine was going so well that they extended their flight a short distance towards the Pole instead of landing right-away. On April 5 they set out on the return flight to Fairbanks, bad weather forcing them to land at Circh City *en route*, but eventually they reached their destination.

The Byrd Arctic Expedition

LIEUT.-COMMANDER BYRD, U.S.N., sailed from New York for Spitzbergen in the "Chantier" on April 5; Commander Byrd hopes to make a series of flights—using Fokker 3-engined machines—over the Arctic from Kingsbay.

W.R.A.F. Reunion Dinner

THE Third Annual Reunion Dinner of the Women's Royal Air Force will be held at the Victoria Mansions Restaurant, Victoria Street, on April 17, Dame Helen Gwynne-Vaughan, D.B.E., presiding. Applications for tickets—General Secretary, W.R.A.F. Old Comrades' Association, 5, Buckingham Gate, S.W.1.



["FLIGHT" Photographs]

Manœuvrability is a feature of the "Gloster Gamecock" as well as its civilian version, the latter being shown in above photographs. The view of the machine in a steeply-banked turn gives a plan view, while in the inset the machine is seen in front elevation, which admirably illustrates the clean design.

THE GLOSTER "GAMECOCK"

A Single-Seater Fighter With Many Novel Features

FROM the very beginning of its existence, the Gloucestershire Aircraft Co., of Cheltenham, has concentrated on the production of high-performance aircraft, a type of which their chief designer and engineer, Mr. H. P. Folland, has had very extensive experience since—it seems ages ago now—he took a hand in the design of the S.E.5 at Farnborough during the war. When Mr. Folland joined the British Nieuport Co. a single-seater known as the "Nighthawk" was one of the first results, and although the type came too late to take an active part in the war 1914-18, a great number were built. When Mr. Folland joined the Gloucestershire Aircraft Co. he appears to have convinced Mr. D. Longden, managing director of the company, of the importance of this type, and the policy of that firm has always been one closely associated with the high-performance single-seater, although other types have been successfully produced. Some months ago we gave detailed descriptions, illustrated by sketches and photographs, as well as general arrangement drawings, of two "Gloster" machines which have proved highly successful—the "Grouse" school machine, and the "Grebe" single-seater fighter. The latter has been supplied in large numbers to the Royal Air Force, but is now about to be superseded by a more recent type, the "Gamecock." At the moment it is not possible to give a detailed description of this machine, which is not yet in quantity production, but on a recent visit to the Cheltenham works of the Gloucestershire Aircraft Co., and to their aerodrome at Brockworth, a few miles from Cheltenham, we obtained a series of flying pictures of the "Gamecock," and of a very slightly modified version of it which, being a "civilian" machine and carrying the usual registration letters, may be supplied to foreign governments.



["FLIGHT" Photograph]

A VERY NEAT ENGINE INSTALLATION: In the civilian version of the "Gloster Gamecock" no exhaust pipes are fitted, as the machine is not intended for night flying, and a cowl of very pleasing appearance is fitted. The "spinner" is in the form of a swelling of the propeller boss, and is built integral with it, only the small pointed nose-cap being a separate metal fitment. The undercarriage is of special oleo-damped type.

In point of fact, we believe that this latter machine is about to be sent on a tour abroad for the purpose of giving demonstration flights, presumably as a result of the Air Ministry decision to allow British aircraft constructors to demonstrate some of the latest machines abroad, and to supply them to foreign air services.

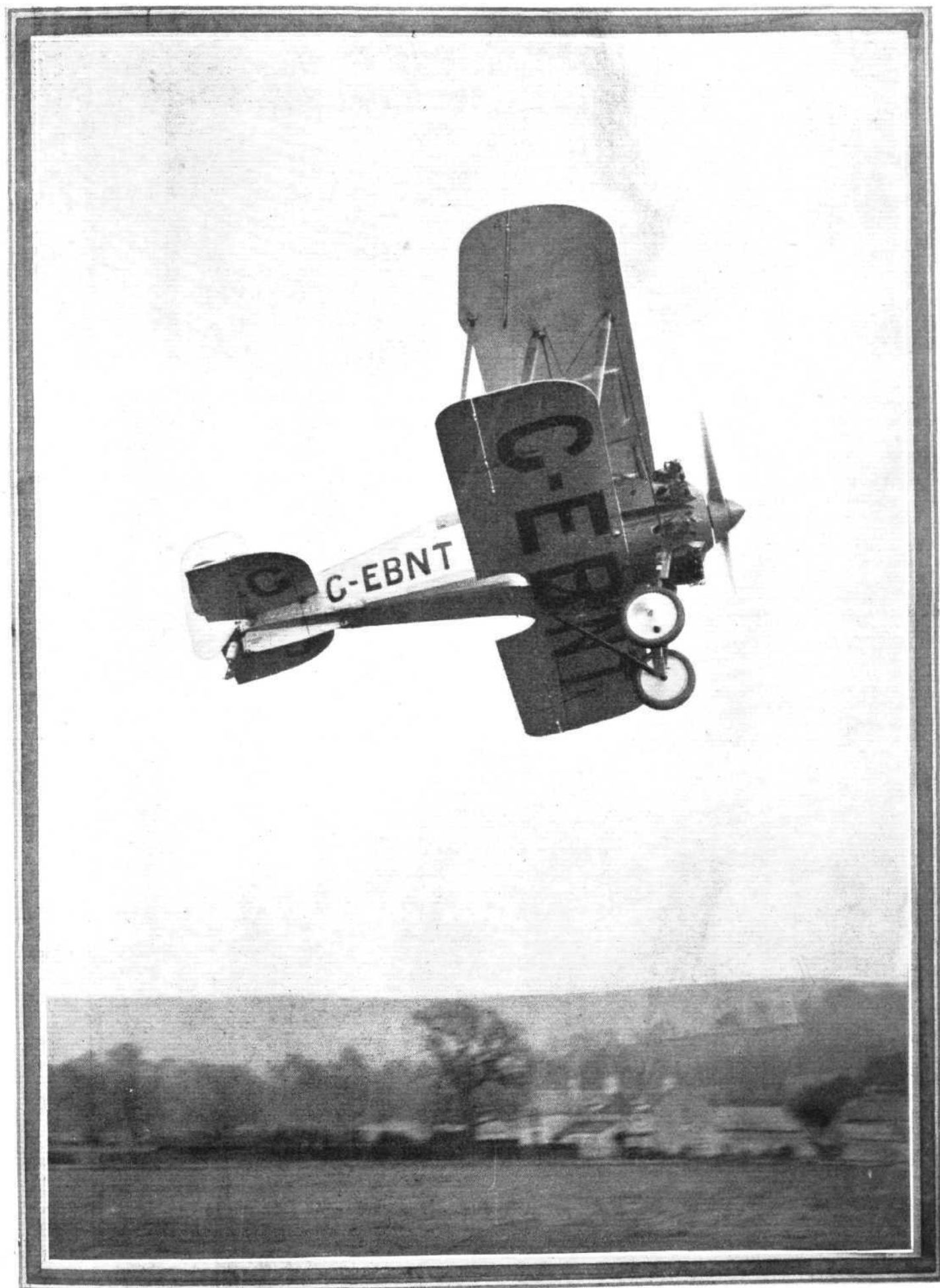
A detailed description of the "Gamecock" may not yet be given, but the photographs show it to be, as regards outward appearance, a fairly normal single-bay biplane, fitted with Bristol "Jupiter" engine. As a matter of fact, the "Gamecock" is a good deal less orthodox than a casual inspection would indicate, partly aerodynamically, and also in the matter of constructional details. Concerning the former it may, without going into too great detail, be said that it follows the principle, first tried in the "Grouse" and later applied with great success to the "Grebe," of having a thick-section top wing and a medium-section bottom wing. Moreover, the top wing is set at a slightly greater angle of incidence than the lower, the *decalage* being so chosen that, in conjunction with the difference in characteristics of the two sections used, the combination provides certain very important features.

For instance, at or near the stalling angle, the two wings contribute almost equally to the lift, and by the special arrangement of the wing tips and ailerons the lateral control is very effective, even at angles beyond the stall. The result naturally is that a low landing speed can be attained, since the lateral control does not become "sloppy" in the region of stalling speed. The wing combination is also such that at climbing speeds, or rather climbing angles, the L/D ratio is good, so that an improved climb is attained. At top speed, on the other hand the wing combination approaches in effect monoplane efficiency, since the lower plane, being set at a smaller angle of incidence than the top plane, contributes but little to the lift and has a very low drag being, of fairly small camber. A further advantage of the particular wing combination used is that travel of the centre of pressure is reduced, with consequent gain in stability, while if great controllability is desired a very short fuselage enables this to be achieved without introducing instability.

Perhaps a few words concerning the manner in which reduced c.p. travel is obtained may be of interest. At low speeds the two wings, as already stated, contribute almost equally to the lift. In other words, the mean chord, or "equivalent plane," is roughly half-way between the upper and lower wing. At large angles the centre of pressure is, of course, fairly far forward. As the speed of the machine increases, *i.e.*, as the angle of incidence diminishes, the upper wing contributes an increasing proportion of the lift, so that the "equivalent plane" gradually rises towards the upper wing. Meanwhile the centre of pressure moves back with decrease in incidence, but as the upper wing is staggered and the "equivalent plane" moves towards it, *i.e.*, forwards as well as upwards, the c.p. of the whole machine does not move back as far as it otherwise would, and the overall travel is confined within fairly narrow limits.

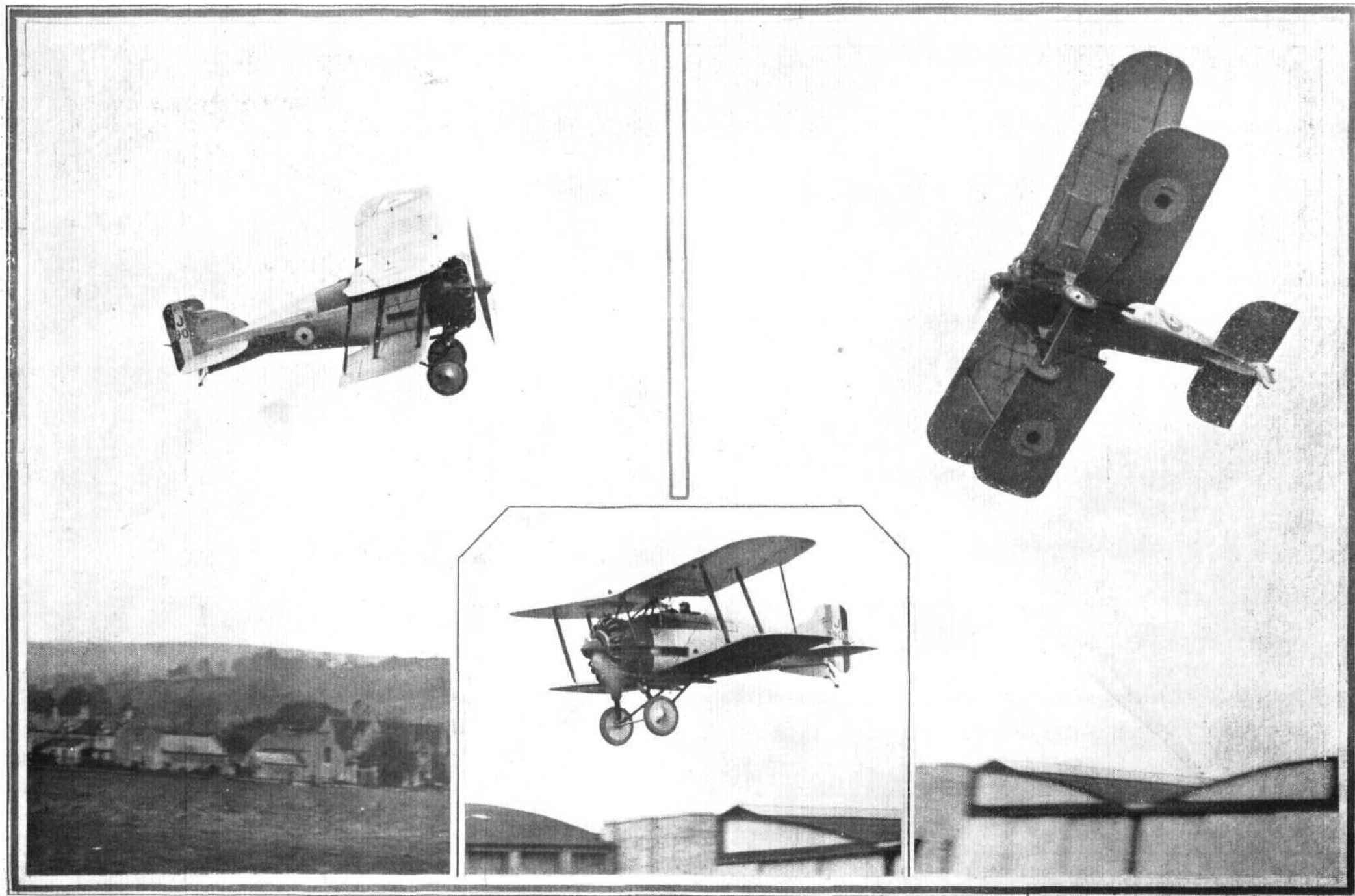
While on the subject of the movement of the centre of pressure in the "Gamecock," reference may be made to an impression which appears to have got about to the effect that the machine is somewhat inclined to be tail-heavy at large angles of incidence. It is considered that this is probably due wholly to extra load above specification being carried on the machine. It should be realised that on a small single-seater a variation in military load of from 400 lbs. (pilot and half fuel) to about 1,020 lbs. (pilot, full tanks and a lot of equipment) must necessarily involve a change in trim. We believe the Gloucestershire Aircraft Company has suggested to the Air Ministry that in future designs ballast would be necessary to trim a machine more satisfactorily with such a widely-varying load.

It is not permissible at the moment to give performance figures for the Gloster "Gamecock," but by way of demonstrating some of the advantages of the particular biplane combination used in the Gloster machines it may be of interest to quote a few figures relating to two earlier types. These are the "Sparrowhawk," with 230 h.p. B.R.2 rotary engine, and the "Grouse," fitted with the same engine. The former had the normal thin-wing section in both planes (R.A.F. 15) whereas the latter had thick-section H.L.B.1 in the top plane and medium section H.L.B.2 in the bottom plane. The empty weight of the "Sparrowhawk" was 1,419 lbs. and that of the



WELL AWAY: This photograph of the civilian version of the "Gloster Gamecock" gives an excellent idea of the general lines. The engine is a Bristol "Jupiter."

[" FLIGHT " Photograph



AT BROCKWORTH AERODROME: These three photographs of the "Gloster Gamecock" with Bristol "Jupiter" engine show the machine during a test flight, piloted by Maurice Piercey.

[" FLIGHT " Photographs]



["FLIGHT" Photograph

TWO BROTHERS: On the left the "Gloster Gamecock," with Bristol "Jupiter" engine, as supplied to the British Royal Air Force. On the right the civilian version, which will be used for demonstration purposes abroad. The absence of "whiskers," in the form of exhaust pipes, on the civilian "brother" results in a much cleaner appearance.

"Grouse" 1,357 lbs., so that there was a saving in structure weight due to the use of thicker wings. The loaded weights for the two machines were 2,168 lbs. and 2,106 lbs., respectively, while the wing areas were 270 sq. ft. and 205 sq. ft., a not inconsiderable reduction in size. In spite of the heavier wing loading, the "Grouse" has a stalling speed of 47 m.p.h., as compared with 51 m.p.h. of the "Sparrowhawk." The figures for speed at ground level are 125 and 128, and this advantage in speed in favour of the "Grouse" is maintained at altitudes, the figures at 15,000 ft. being 111 m.p.h. and 114 m.p.h., respectively. In climb, also, the modern biplane combination scores, its time to 17,000 ft. being 37.51 minutes, as against 43 minutes. The ceiling is 400 ft. higher, i.e., 19,400 ft. instead of 19,000 ft. Both machines, it should be pointed out, carried the same military load, had the same fuel capacity, and used the same propeller.

Returning to the Gloster "Gamecock," although little may be said at present concerning some of its more interesting features, it is possible to state that great attention has been paid to details, and that the full merits of the machine cannot be appreciated without taking these into consideration. It has already been intimated that as regards its aerodynamic features the "Gamecock" looks a normal machine, but that there is a great deal of thought and experience behind its aerodynamic design. So also with regard to construction and equipment. The machine is in a general way just a normal single-seater fighter, but the way in which details such as placing of the equipment have been thought out shows the amount of trouble that has been taken to study practical considerations. The "Gamecock" is not just a machine

with high performance into which the required equipment has been crammed as best it might. Rather does it give the impression that the arrangement and placing of the equipment was the first consideration, and that around this the machine was designed.

To give but one illustration of what is meant, it may be stated that much of the equipment carried is mounted on sliding panels which can be pulled out clear of the machine for inspection and adjustment. The machine guns are favourably placed and are accessible without the pilot having to put his hands over the side. Inspection doors are detachable in a few seconds, with nothing of the old-fashioned "meat skewers" about them. Seat and rudder bar are adjustable to suit pilots of various heights. And many other features of which no mention can be made.

A feature of the "Grebe," and which has been retained in the "Gamecock," is the placing of the petrol tanks in the top plane, the cocks being within reach from the cockpit. The tanks themselves can be changed in a few minutes by undoing four bolts for each tank. One might go on enumerating good features incorporated in the "Gamecock," but sufficient has probably been said to show that the machine merits very close attention, and the specimen which is going abroad for demonstration purposes should help very materially in raising the prestige of British aircraft in foreign countries. A point about which nothing has been said so far is the performance of the machine at altitudes. In this respect also the particular biplane combination seems to score, as will, we think, be realised when it becomes possible to publish the certified performance figures.

Madrid-Manila Flight

THE three Spanish airmen who left Madrid on April 5 in three Breguet XIX biplanes (400 h.p. Lorraine-Dietrich) with the object of flying to Manila, reached Algiers the same day. They set out again next day for Tripoli, which Capt's Gallarza (? Gonzalez) and Loriga reached safely, but the leader, Capt. Estevez (? Martinez) had to land at Tunis. By April 9 all three had arrived at Cairo, and on April 11 they set out for Baghdad, Capt's Gallarza and Loriga arriving safely, but Capt. Estevez made a forced landing *en route*. Four R.A.F. machines were sent out from Amman to look for him and eventually located his machine 100 miles away—the occupants having proceeded to Amman on foot. Meanwhile the other two Spanish airmen flew on to Bander Abbas.

R.A.F. Flying Accidents

THE Air Ministry regrets to announce that as a result of an accident at Arawali, India, to a D.H.9A of No. 60 Squadron, on April 4, Pilot Officer David John Lloyd, Royal Air Force, the pilot of the aircraft and Lieutenant Walter John Vezey, Royal Engineers, a passenger in the machine were killed.

As the result of a collision in the air at Henlow, Bedfordshire, on April 10, between a Vickers-Vimy machine and an Avro machine, both of the Inland Area Aircraft Depot, Henlow, Flying Officers Charles Victor Lacey, A.F.C., and William Scott, the pilots of the respective machines, and No. 330689 L. A. C. Reginald Richard Germain, No. 361781 L. A. C. Basil Henry Young, and No. 328869 A. C. 1. James

William Simmonds, who formed the crew of the Vickers-Vimy machine, were killed.

In connection with the latter regrettable disaster, H. M. the King sent the following telegram to the Secretary of State for Air:—

"I am shocked and grieved to hear of the tragic accident at Henlow Aerodrome, resulting in the loss of five valuable lives to the Royal Air Force. Will you kindly convey to the bereaved families, as well as to all ranks at Henlow, the expression of my deepest sympathy.—GEORGE R.I."

The following reply was sent by Sir Samuel Hoare to Lord Stamfordham, the King's Secretary:—

"The Air Council and the Royal Air Force are extremely grateful for his Majesty's sympathetic message, which I am at once conveying to Henlow and to the relatives of the officers and men who lost their lives.—SAMUEL HOARE, Secretary of State for Air."

R.A.F. Cairo-Cape Flight

THE R.A.F. Expedition under Wing-Commander Pulford (Fairey 111D-Napier "Lions") arrived at Cape Town on April 12.

Brussels-Congo-Brussels

LIEUTS. MEDAETS and Verhaegen and Adj. Coppens, have succeeded in returning to Brussels safely, having arrived there on April 12. They were given an enthusiastic welcome and were received by the King and Queen of the Belgians. We hope to give further details next week.

THE AVRO "GOSPORT"

A New Training Machine of "504" Type

PERHAPS one of the most remarkable features in the development of aeroplane design is centred around the world-famous Avro "504" biplane—which is a sort of "Peter Pan" of the aeroplane world. After Mr. A. V. Roe had produced his triplanes, during 1909–1910, he designed in 1911 a tractor fuselage biplane—one of the first aeroplanes of this type in

They have, therefore, designed this new type 504G., which, while being lighter in construction than other Avro training machines, is yet sufficiently strong to withstand the rough handling to which a training machine is subject. This machine is the outcome of their long and unparalleled experience in the production of training aircraft, and every

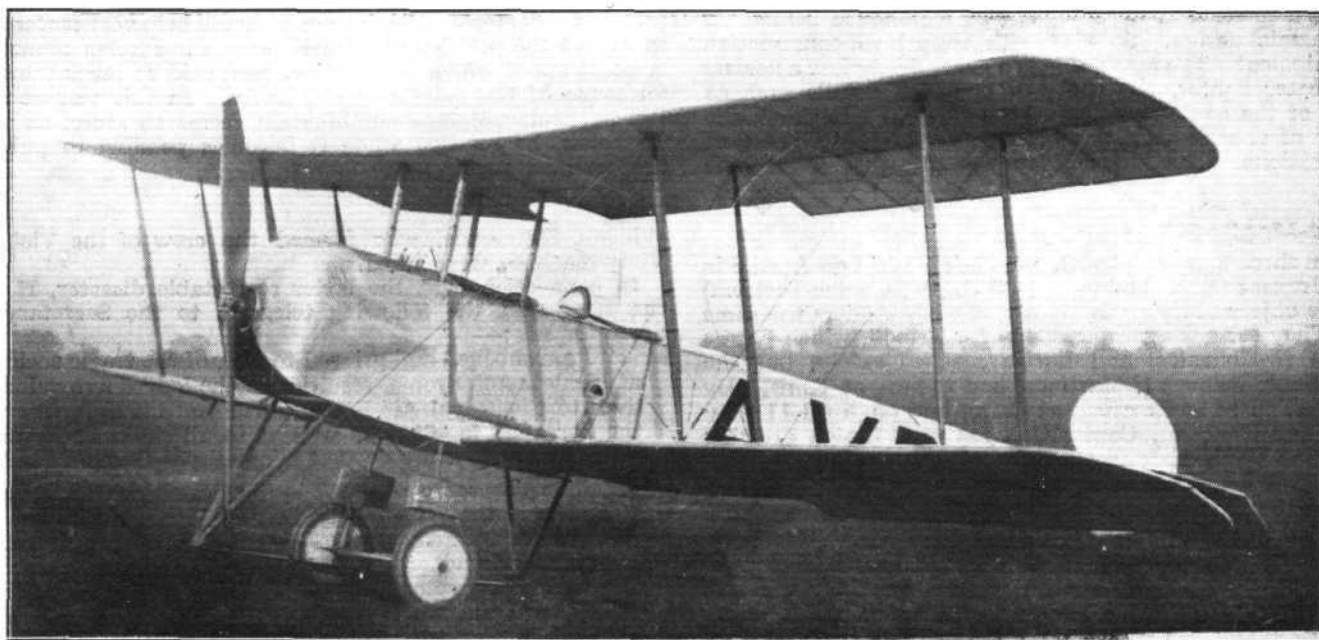


THE AVRO 504 R "GOSPORT."—Three quarter front view of the new training machine produced by A. V. Roe & Co., Ltd. Compare this illustration with that below of the original Avro 504 of 1913.

the world to be produced—which was developed into the original "504" in 1913. Since that time this type has been multiplied to the umpteenth power, yet, although vastly improved aerodynamically, outwardly this aerial Peter has not appreciably grown up! This may be appreciated by comparing the accompanying illustration of the original "504"—which startled the aviation world in the summer of

quality essential for training purposes is incorporated in the design.

The fuselage is similar in construction to that of all Avro training machines, and is in the form of a wire-braced girder. This method has been proved in practice to be very strong, and at the same time to provide the best facilities for repairs in case of damage.



THE ORIGINAL AVRO 504: This three-quarter front view of the machine produced in 1913 shows how this famous type has retained its main external characteristics right up to the present day.

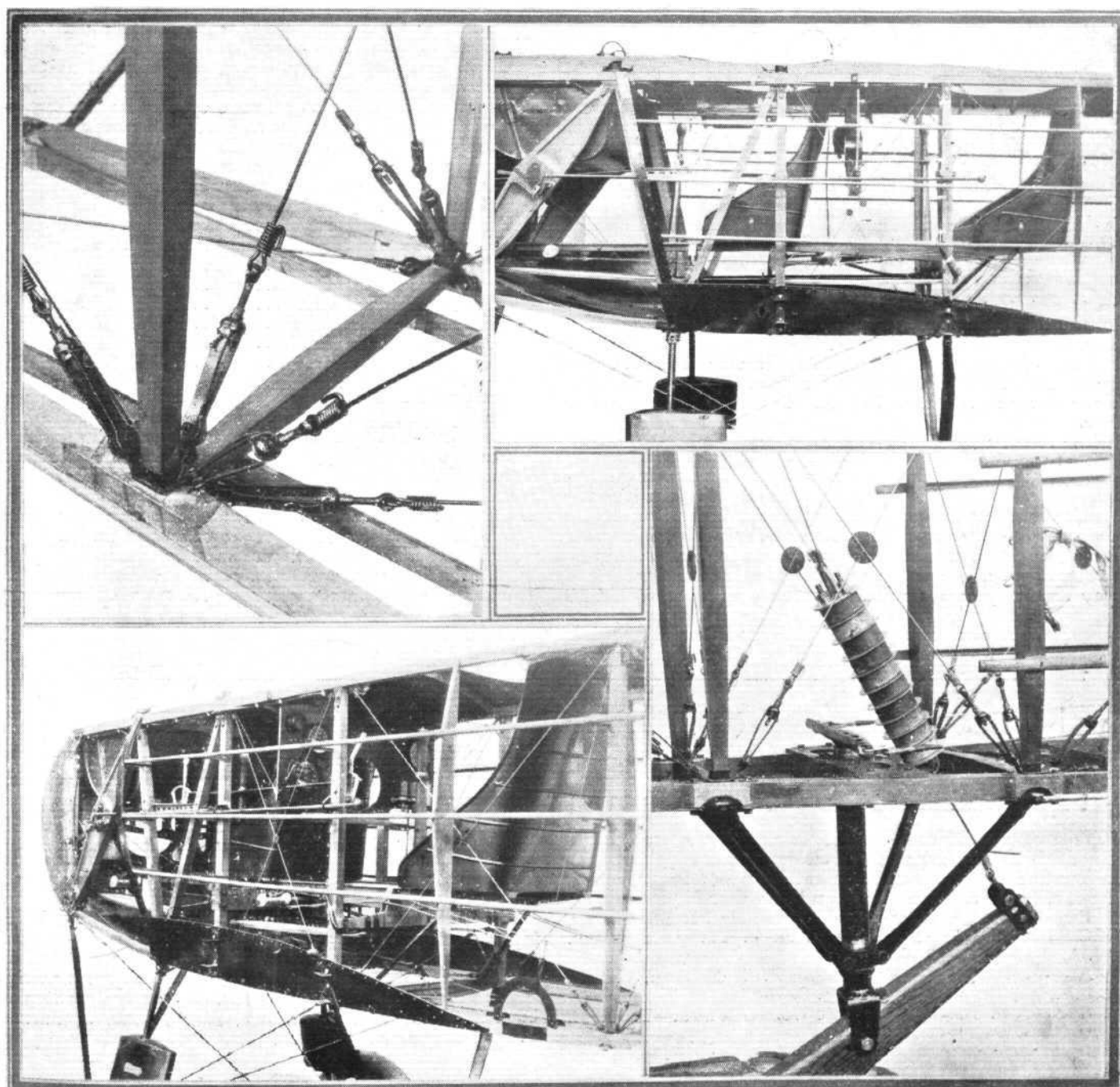
1913 at Brooklands and Hendon—with the companion picture of the latest development of this type (the 504 R. "Gosport"), which we are able to describe this week.

It is the opinion of the house of Avro that the "light aeroplane" is unsuitable for the serious training of pilots.

The instructor and pupil (or pilot and passenger) occupy two cockpits, which are arranged in tandem, and all machine and engine controls are duplicated in each cockpit. A particular feature, and one which is essential in a practical training machine, is that the machine can be flown equally



THE AVRO 504 R "GOSPORT": Side view of the new Avro training machine.



THE AVRO 504 R "GOSPORT": Some constructional details of the fuselage.



THE AVRO 504 R. "GOSPORT": A close-up showing the familiar Avro hanging gear and the 100 h.p. Gnome Monosoupape.

well, and landed with equal safety, from either cockpit. If desired, special seats can be fitted in order that the Irving seat-type parachute may be used.

The main planes are built up on two spars of solid silver spruce spindled to a suitable "I" section. The ribs are of the same material, and the whole structure is cross-braced with high-tensile steel wire.

The top main planes differ slightly from the bottom planes in that the inner portion is tapered to suit the centre-section plane, which has been cut away at both leading and trailing edges as far as the main spars. As a result of this alteration both instructor and pupil have a much better overhead view—a distinct advantage in a training school, where often several machines are in the air at the same time.

The contour of the ailerons has been altered in such a way that they now harmonise perfectly with the elevators.

All controls are particularly light and very sensitive, and the machine responds immediately to the slightest touch.

The fixed tail plane is in two sections, and an elevator is hinged to the trailing edge of each tail plane. Both tail-planes and elevators are interchangeable port or starboard. The rudder is of the balanced type.

The interplane struts are of solid silver spruce carefully streamlined, with bracing ties of flexible steel cable, and the lift cables are in duplicate.

The undercarriage is similar to that fitted to the famous Avro 504 K. training machine, and has been specially designed for training purposes. The shock absorbers consist of rubber cord in tension and are built to withstand very heavy landing shocks. The most important feature of this undercarriage, however, is the *long main skid*, which not only protects the tip of the propeller in the case of a faulty landing by a pupil, but in a similar occurrence often prevents the machine turning over on its back, with serious consequences. The tail skid is sprung by rubber pads in compression.

The petrol and oil tanks are fitted inside the fuselage above and forward of the front seat. Petrol is pumped to the engine by means of a hand-pressure pump, which may be operated from either cockpit.

The engine fitted is the new model 100 h.p. Monosoupape with "Y" metal pistons, which obviate the necessity for obturator rings.

In conclusion, it should be mentioned that every part of this machine is absolutely standardised in order to ensure complete interchangeability.

Its performance as a training machine is beyond comparison, and because robustness of construction has not been sacrificed for the sake of lightness, it is economical in operation.

The name "Avro" has always been the hall-mark of the best training aeroplanes; the word "Gosport" at once brings to mind the most thorough and scientific system of training that has ever been devised, and which was, from the outset, operated by the earlier 504 type of Avro aeroplane. For these reasons, this, the latest training aeroplane, has been rightly named the Avro "Gosport."

The principal characteristics of the "Gosport" are as follows:

Span	36 ft. 0 in.
Chord	4 ft. 9.75 in.
Gap	5 ft. 5 in.
Overall Length	28 ft. 11 in.
Overall Height	10 ft. 4 in.
Area of main planes	320 sq. ft.
" ailerons	40 "
" tail plane	26 "
" elevators	10 "
" rudder	9 "
Dihedral angle	2.5°
Angle of incidence	4°
Weight empty	1,107 lbs.
Useful load	569 lbs.
Weight laden	1,676 lbs.
Weight per square foot	5.24 lbs.
Weight per horse-power	15.52 lbs.
Speed range	35-87 m.p.h.
Climb to 10,000 ft.	24 mins.
Service ceiling	13,000 ft.
Duration (cruising)	2 hours.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

TWO-SEATER LIGHT AEROPLANE COMPETITION, 1926

A MEETING of the Joint Committee was held on Thursday, April 8, 1926, when there were present:—

Royal Aero Club.—Air Vice-Marshal Sir Sefton Brancker, K.C.B., in the chair; Lieut.-Col. M. O. Darby, Lieut.-Col. W. A. Bristow, Capt. W. Dancy.

Air Ministry.—Air Commodore F. C. Halahan, C.M.G., C.B.E., D.S.O., M.V.O.; Maj. J. S. Buchanan.

Society of British Aircraft Constructors.—T. O. M. Sopwith, C.B.E.; C. R. Fairey.

In attendance:—H. E. Perrin, Secretary, R.Ae.C., and J. Brown, Assistant Secretary, S.B.A.C.

The final regulations were approved.

The following alterations in the regulations already issued were made:—

Eliminating Tests.—(Getting off.) The distance from the starting-point to the barrier is increased to 300 yards.

Eliminating Tests.—(Pulling up.) The length of run is increased to 125 yards.

Change of Pilots.—Change of pilots is permitted, but such change must be notified beforehand to adjust the weight.

Date and Place of Competition.—The competition will be held at Lympne Aerodrome, near Hythe, commencing Friday, September 10, 1926.

Eliminating tests: September 10 and 11, 1926.

Competition: September 12 to 17, 1926.

Courses.—The course of approximately 2,000 miles will

include turning-points at Brighton, Eastbourne, Hastings, Dover, Ramsgate, Margate, Herne Bay, and Croydon. Full regulations will be issued next week.

GROSVENOR CHALLENGE CUP HANDICAP

THE race for the Grosvenor Challenge Cup will be held at Lympne Aerodrome on Saturday, September 18, 1926 (the concluding day of the Light Aeroplane Competition). The race will be over a distance of approximately 100 miles.

The aeroplane and engine must have been entirely constructed in the British Empire. The weight of the engine must not exceed 275 lbs. The entrant and pilot must be British subjects. The entrant must be an individual and not a company. Entry fee, £2.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary

SPEED ESTIMATES AND HANDICAPPING

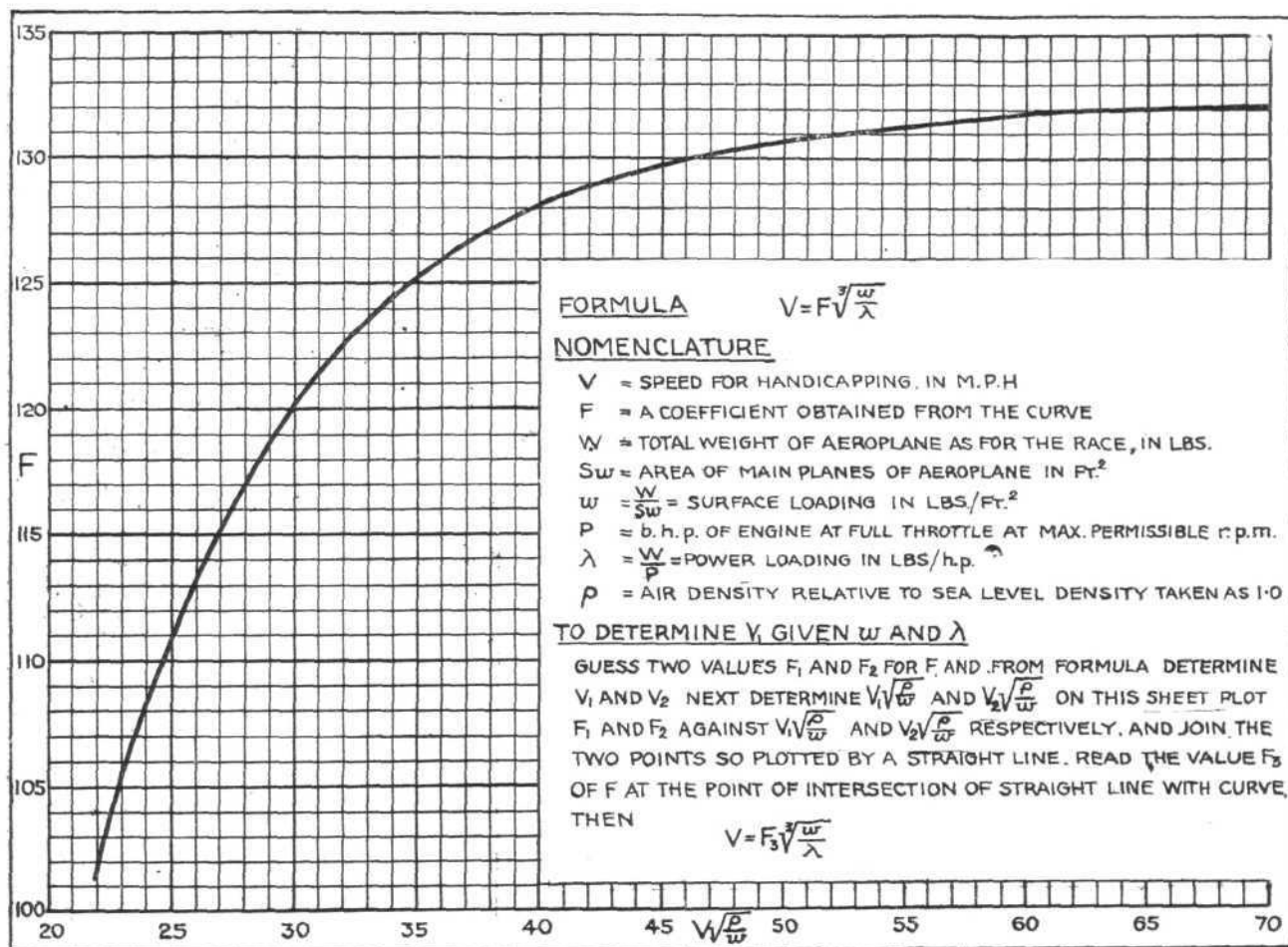
New Formula to be Used by the Royal Aero Club

THE task of handicapping aeroplanes for racing purposes is at best a thankless one. If the types of machines to be included in the handicapping vary greatly in their characteristics, the work becomes even more difficult, and the wonder of it is that in the past finishes have been as close as has been the case. Presumably realising this, the Royal Aero Club has suddenly become technical, and has issued a curve and a formula which, it is stated, are to be used for purposes of handicapping in the King's Cup Race this year. Hitherto most of the handicapping has been done for the Royal Aero Club by Capt. Goodman Crouch, and one may perhaps, therefore, be forgiven for assuming, without authority for doing so, that the new formula and the curve accompanying

and that of V_2 is $130 \times 0.66 = 85.8$ m.p.h. Taking 1 as the value of ρ , and 5.46 as the value of w , $\frac{P}{w} = 0.183$, and the

square root of this is 0.4275. $V_1 \times 0.4275 = 31.05$ and $V_2 \times 0.4275 = 36.7$. Plotting these points on the graph, and projecting the line until it intersects the curve, the value of F_3 is found to be 125.6, and the speed V to be used for handicapping is 83 m.p.h. This seems to give a somewhat pessimistic estimate.

That "guessing" at F_1 and F_2 is not a critical business seems to be proved by a test consisting in "guessing" these values as 100 and 120 respectively. Carrying out the calcu-



New Royal Aero Club method of estimating speed.

it owe their existence to him, or, at any rate, to his department.

The new R.Ae.C. formula and curve are given herewith, and the procedure is seen to be simple enough, the basis used for estimating the speed of machines being our two old friends, the power loading and the wing loading.

By way of "testing" the method we have carried out the calculations for a machine with characteristics somewhat similar to those of the de Havilland "Moth." Assuming a total loaded weight of 1,250 lbs., a wing area of 229 sq. ft., and a maximum engine power of 65 b.h.p., the wing loading is found to be 5.46 lbs./sq. ft., and the power loading 19.25 lbs./h.p. The value of $\frac{w}{\lambda} = 0.238$, and the cube root of this figure is 0.66 approximately. F_1 is "guessed" as 110 and F_2 as 130. The value of V_1 is then $110 \times 0.66 = 72.6$ m.p.h.

lations as before, exactly the same value of F_3 is obtained, and consequently the same estimated speed.

Out of curiosity we have tried to apply the method to the Albatros L.72A described in this issue of FLIGHT, for which the following values are obtained: $w = 11.35$ lbs./sq. ft.;

$\lambda = 20$ lbs./h.p.; $\frac{w}{\lambda} = 0.567$; the cube root of this figure

is 0.8275; $\frac{P}{w} = 0.0882$, and the square root of this figure is

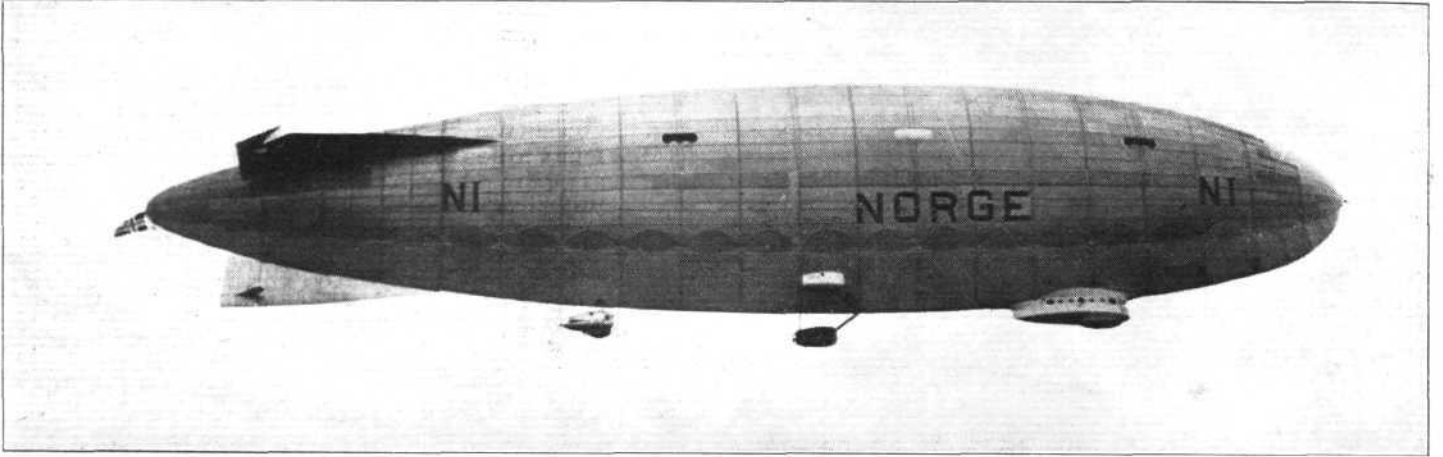
0.297; "guessing" F_1 as 110 and F_2 as 140, V_1 is found to be 91 m.p.h. and V_2 115.8 m.p.h. $V_1 \times 0.297 = 27.05$, and $V_2 \times 0.297 = 34.4$. From the curve, $F_3 = 131$, and the speed is found to be 108.3 m.p.h. The makers of the Albatros L.72A claim a top speed at ground level of 112 m.p.h., so that again the formula appears to under-estimate the speed.

THE AMUNDSEN-ELLSWORTH POLAR EXPEDITION

First Stage Completed

ON Saturday morning last a start was made with the Amundsen-Ellsworth Polar Expedition, when the Italian-built semi-rigid airship N.1, "Norge" (which was described in FLIGHT for March 20, 1924), set out from Rome, flying the Norwegian flag, on its first stage to Pulham, Norfolk. This expedition has been organised by the Norwegian Aero Club for the purpose of exploring the North Polar regions, in order to ascertain whether it is open sea or land or islands.

the Rhone Valley and the other across the north of Corsica, across France to the north of the Pyrenees, up to the Bay of Biscay, then follow the coast for a short distance, come inland to the east of La Rochelle, get through the gap between the mountains which runs roughly over Poitiers and Tours, and so up to the coast of Normandy. It was decided to follow this latter course. There had been some talk of landing in France to re-fuel either at Marseilles or at Rochefort, but the



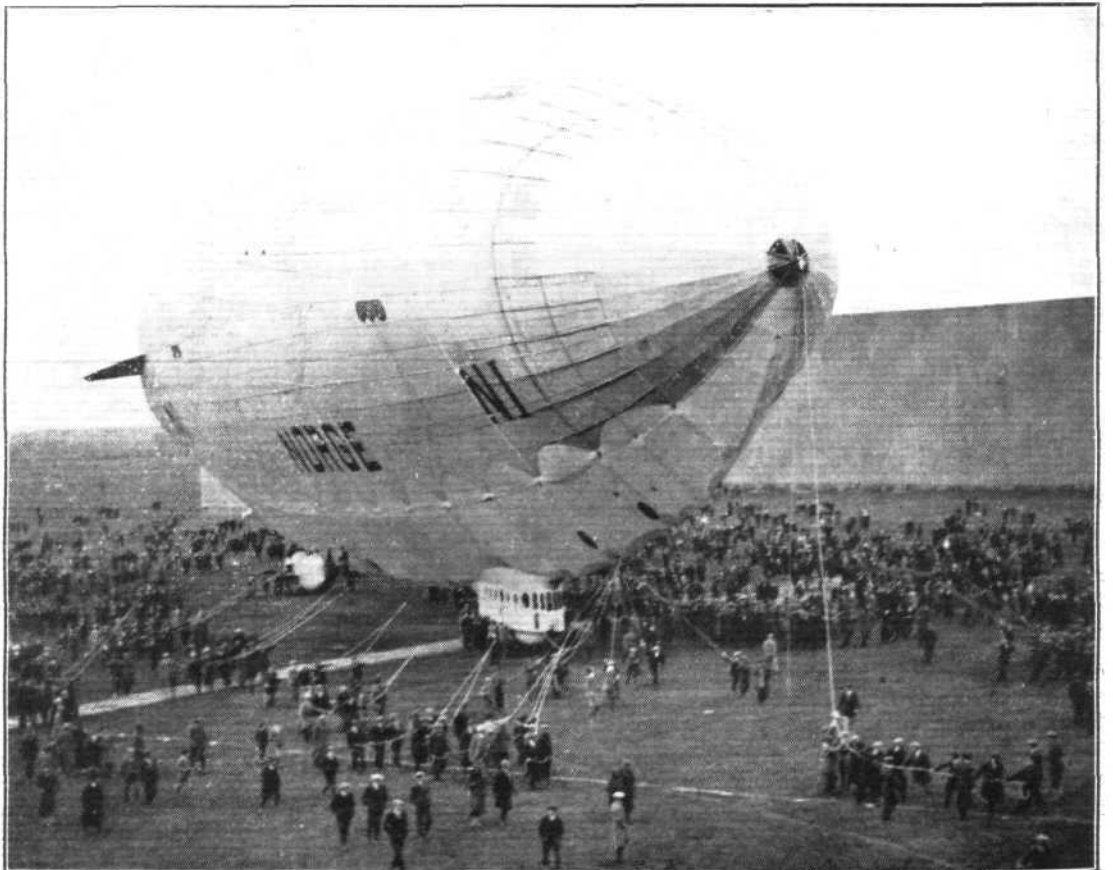
THE "NORGE" POLAR AIRSHIP AT PULHAM: On April 11 the Italian semi-rigid airship N.1, "Norge," with which Capt. Amundsen is to make his flight over the North Pole, arrived at Pulham from Rome, "piloted" by Maj. G. H. Scott. Our illustration shows the airship preparing to land.

It is being led by Capt. Roald Amundsen, who made the remarkable aeroplane attempt last year, and Mr. Lincoln Ellsworth is again supplying the necessary funds.

The "Norge" left Rome at 9.25 a.m. on Saturday, Signor Nobile (its designer) in command and Major G. H. Scott on board as volunteer, taking no part in the command of the ship, but ready to give advice. Two courses were possible for her to take between Rome and Pulham, one up

south-east wind which helped the vessel on as far as Rochefort was so favourable that it was decided not to stop, but to push straight on for England. As far as Rochefort, which was reached about midnight, she was making about 60 miles an hour. As soon as she crossed the French coast, she came in wireless communication with the British Air Ministry. While still in the Gulf of Lyons, she had attempted to send messages, but did not get through satisfactorily. Soon

The Norge Polar Airship at Pulham: Many willing hands helped to berth the "Norge" in the shed at Pulham, which proved to be a somewhat tricky and lengthy task owing to unfavourable weather conditions.



after leaving Rochefort, she encountered a somewhat different wind, viz., one from the east, which delayed her considerably and brought her speed down from 60 to something nearly 30 miles an hour. This, however, grew gradually less strong, as she sailed northward. At 8.45 she was in the neighbourhood of Caen in Normandy, and signalled that she was about to cross the Channel.

By mid-day, large crowds had assembled at Pulham, including Sir Samuel Hoare, Secretary of State for Air, the Norwegian Minister, H.R.H. Prince Olaf, the Crown Prince of Norway, and Air Vice-Marshal Sir Geoffrey Salmond, who had flown over from Manston in a Vickers' Virginia. Of course, Group-Captain Fellows, Director of Airship Development, Col. V. C. Richmond, Squadron-Leader Colmore, Flight Lieut. Nixon and others of the staff of the Royal Airship Works, were present on the ground. The authorities at Pulham had made excellent arrangements for getting landing parties (about 200 strong) together from the surrounding villages, and as appeared from the subsequent operations these parties had been very well disciplined and trained. A message was received from the "Norge," when she crossed the English coast, about Brighton, which said that she proposed to fly over London. As this seemed a very natural proceeding, those assembled at Pulham gave up hopes of her for several hours, but this plan was changed and the airship took a line over Tonbridge and crossed the Thames somewhere near Chatham, then heading straight up for Pulham. At 2.30 p.m. she was sighted from the airship station, a tiny dot against the clouds of the sky. These clouds varied in height from about 1,800 to 2,500 ft., and were slowly on the move. The sun broke through at intervals, and these conditions made variations of temperature which were distinctly trying for an airship captain.

As the "Norge" drew nearer, two aeroplanes, a D.H.50, belonging to Imperial Airways, and piloted by Mr. Olley, and also a D.H.9, both carrying press photographers, flew out to meet her and circled round her. By 3 o'clock she was over the station, flying at about 1,000 ft., and all details were clearly visible to those on the ground. She circled over the shed and made off again and remained away to the south-east for some considerable time, evidently waiting for better weather conditions. Then she approached the aerodrome again, and the landing party got ready, drawn up in two lines with grappling ropes handy. The ship, however, came in not quite low enough down, and Commander Nobile decided not to drop his ropes, but sheered off and circled round again. He then proceeded to discharge ballast, both water and sand. This time he dropped three ropes, but members of the landing party had barely time to lay their hands on them before the

ship shot up again and tore the ropes out of their grasp. Altogether, about four of these attempts were made before the ropes were firmly seized, and attached to the winch on the ground. The reason for these manœuvres was that there was a steep temperature gradient, and as the ship got into the strata of hot air near the ground, she showed a tendency to sink rapidly. Commander Nobile was evidently apprehensive of bumping her badly on the ground, and to obviate this possibility threw out ballast each time as he approached the ground, with the result that she always came in a little bit too light, and showed a tendency to shoot up through the cooler air, in which she was moving as soon as she lost way, and the elevators therefore ceased to hold her down. It was quite absurd to talk of any risk, as some of the more alarmist daily newspapers did. The trouble was somewhat excessive caution on the part of her commander. Finally, it was Flight-Lieut. Nixon who seized the trailing rope and by running furiously got it up to the winch, and at the same time enabled sufficient men to get their hands on to it to be able to make the ship captive. This was at 5.45 p.m. Thereafter she gave no trouble at all, and was walked across the ground into the shed without any incident. She had flown for, roughly, 30 hours, and covered something like 1,400 miles.

The flight, said Major Scott, had been quite a good performance. He liked the ship, and thought her particularly suitable for the work which lies before her. Commander Nobile explained something of his plans. At Oslo they would moor to a mast, but there was no shed there, and as they might have to wait some time before proceeding to Spitzbergen, it would not be wise to keep the "Norge" at a mast during the variable weather of April. For that reason, he would fly on to Leningrad, where she could be put in a shed and wait indefinitely for a favourable opportunity to get on to Spitzbergen, where there is a shed of sorts. He re-affirmed his strong belief in the semi-rigid type, which he holds to be stronger than the rigid. The rigid he compared to an egg, strong as a whole, but brittle at one point. He also declared that his mooring gear on the "Norge" was stronger than the mooring gear on a rigid. Some of the British experts, on the other hand, hold that the mooring gear on the "Norge" was not designed to take lateral stresses, and, therefore, was no advance on that of R.33, at the time she was torn away from the mast at Pulham. Of course, it goes without saying that in other points they do not agree with all the claims made by Signor Nobile for the semi-rigid, though they do admit the suitability of this type for certain classes of work, including the particular task for which the "Norge" was designed.

The "Norge" left for Oslo on Tuesday night.

ROYAL AERONAUTICAL SOCIETY

(Official Notices)



Council, 1926-27.—The following are the names of the Council of the Society for the year 1926-27:—

Capt. P. D. Acland, Mr. Griffith Brewer, F.R.Ae.S.; Wing-Commander T. R. Cave-Browne-Cave, C.B.E., F.R.Ae.S.; Sir Mackenzie Chalmers, K.C.B.; Mr. C. R. Fairey, C.B.E., F.R.Ae.S.; Capt. G. T. R. Hill, M.C., A.F.R.Ae.S.; Mr. H. B. Irving, A.F.R.Ae.S.; Maj. A. R. Low, F.R.Ae.S.;

Mr. W. O. Manning, F.R.Ae.S.; Maj. R. H. Mayo, F.R.Ae.S.; Lieut.-Col. M. O'Gorman, C.B.; Mr. F. Handley Page, C.B.E., F.R.Ae.S.; Maj. G. H. Scott, C.B.E., A.F.C., A.F.R.Ae.S.; Col. the Master of Sempill, A.F.C., A.F.R.Ae.S.; Mr. T. O. M. Sopwith, C.B.E., A.F.R.Ae.S.; Mr. C. W. Tinson, F.R.Ae.S.; Mr. H. T. Vane; Sir Henry White-Smith, C.B.E.; Mr. H. E. Wimperis, F.R.Ae.S.; Mr. R. McKinnon Wood, F.R.Ae.S.

Elections.—The following have been elected in the various grades of the Society:—

Honorary Fellows.—Mr. F. W. Lanchester.

Fellows.—Mr. F. Koolhoven, Mr. W. O. Manning, Mr. C. L. Lawrance, and Mr. C. W. Tinson.

Associate Fellows.—Mr. L. G. Brazier, Sqdn.-Ldr. J. A. C. de Courcy, Mr. J. F. Craig, Mr. N. Davey, Mr. G. H. Dowty, Mr. J. Durward, Mr. A. N. Jackson, Mr. G. E. Page, Dr. D. R. Pye, and Mr. H. O. Sommer.

Associates.—Mr. F. W. Atkinson, Mr. R. Rance, Capt. A. G. Bond, Mr. E. E. H. Evans, Mr. E. Hopkins, Mr. F. Hoult, Mr. W. G. Kimber, Mr. C. A. Mann, Mr. S. S. Martin, Mr. W. Moss, Mr. A. D. Patwardhan, F/O. R. L.

Ragg, Mr. J. Reid, Commander I. B. B. Tower, Mr. C. J. Wood.

Students.—Mr. E. V. Dolby, Mr. N. J. Hancock, Mr. E. C. Harvey, Mr. T. Tanner, Mr. E. T. J. Weston and Mr. H. F. Winny.

Members.—Lieut.-Col. J. Barrett-Lennard, Mr. H. S. Daniels, Mr. R. W. Green, and Mr. S. Humphries.

Mr. F. W. Lanchester.—The Gold Medal of the Society has been awarded to Mr. F. W. Lanchester in recognition of his valuable and pioneer services to aviation. Mr. Lanchester has also been made an Honorary Fellow of the Society.

Branches.—The Coventry Branch of the Royal Aeronautical Society recently held their inaugural lecture on "The Auto-Giro." The lecture which was attended by over 100 members, was delivered by Mr. W. S. Farren, A.F.R.Ae.S., with Maj. F. M. Green, F.R.Ae.S., in the chair.

Associates.—A number of applications for membership in the newly-formed grade of Associateship have been received. This new grade has been formed to enable ground engineers, inspectors and examiners of aeronautical materials, those holding a pilot's "B" licence, those holding a navigator's certificate, those who have a commissioned or permanent rank in the General Duties Branch of the Royal Air Force, and those who have held a position equivalent to foreman for a period of not less than three years, to take advantage of the facilities offered to them by the Society. The subscription for this grade has been fixed as low as possible—£1 1s. a year—and Associates have all the usual privileges of members. There is no entrance fee.

J. LAURENCE PRITCHARD, *Hon. Secretary*

THE ALBATROS L 72A

A German Newspaper Carrier with Slotted Wings

It is a somewhat peculiar fact that although the slotted aerofoil was invented in this country at least as early as it was in Germany, hitherto we have not had a single aeroplane fitted with slotted wings put on the regular air routes in order to test out by actual flying experience the merits of the device. It will, of course, be recollected that at about the same time that Mr. F. Handley Page discovered that extra lift could be obtained from an aerofoil by fitting it with slots of a certain shape, a German engineer, Dr. Ing. Gustav Lachmann, attempted to take out a patent in Germany for a similar device. Whereas the patent was granted to Mr.

Munich produced a cabin monoplane with slotted wings, but that machine was, we believe, regarded mainly as an experiment, and the mechanical gear for operating the auxiliary aerofoils was made somewhat heavier than it need have been, with the result that the utmost advantage was not gained from the provision of the slots. Now, however, a machine has been constructed by the Albatros works of Berlin-Johannisthal, one of the oldest of German aircraft firms, incorporating the Handley Page-Lachmann wing slots.

The new Albatros, which is known as the Type L 72a, has been constructed to the order of the famous German publishing



THE ALBATROS L 72A: This three-quarter front view shows the large-span, single-bay bracing and the clean nose. The radiator is a Lamblin. The under-carriage is of the oleo-pneumatic type.

Handley Page in this and other countries, the original application by Dr. Lachmann was refused in Germany, because it was not considered that there was any reason to believe that such an arrangement would give extra lift. Later on the German Patent Office reconsidered this decision, and ultimately a patent was granted to Dr. Lachmann. Since that time Dr. Lachmann and the Handley Page company have, we believe, worked together amicably to mutual advantage, but it would appear that owing to official apathy in this country it has remained for Germany to bring out the first successful commercial aeroplane incorporating the slotted wing device. It is now some time ago that the Udet firm of

firm *Verlag Ullstein*, and is to be employed for the rapid distribution of newspapers, for which purpose the machine has been specially arranged to allow parcels of newspapers to be shot overboard at suitable points, where the parcels are picked up and conveyed by ground transport to the distributing office.

The general lines of the Albatros L 72a are well brought out in the photographs and general arrangement drawings published herewith. The machine, it will be seen, is a normal tractor biplane, but is perhaps of rather unusually clean design, with but a single pair of inter-plane struts on each side, in spite of the relatively large span (42 ft.). The 220

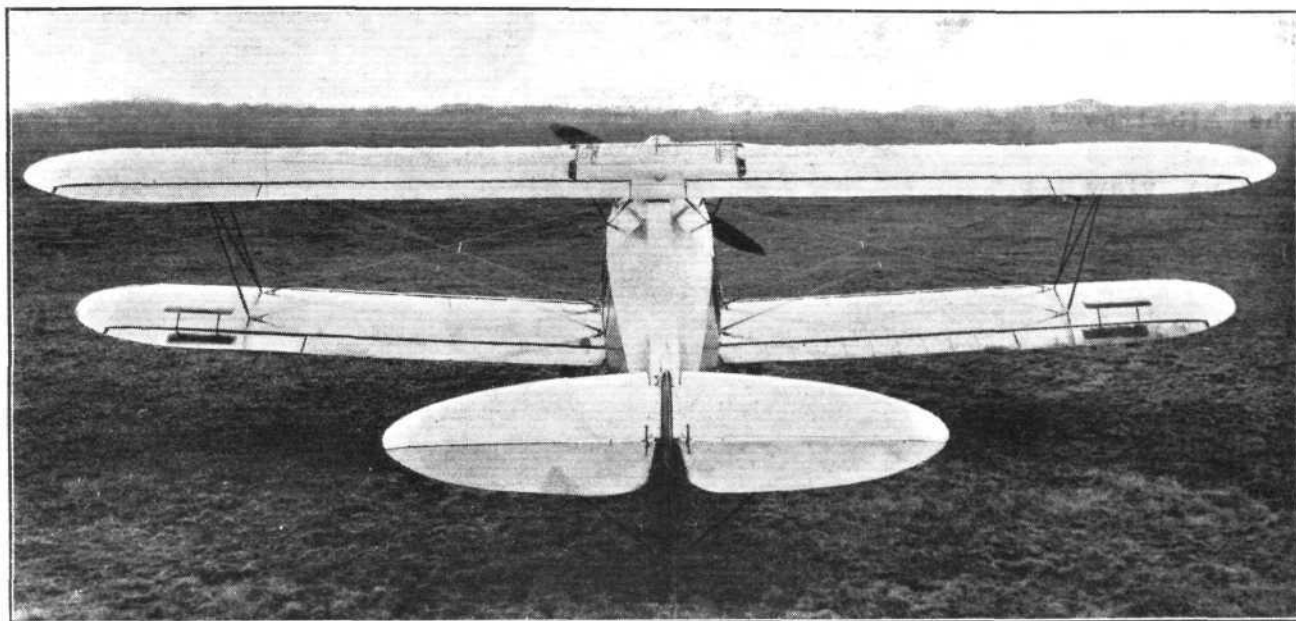


THE ALBATROS L 72A: Side view. Note the depth of fuselage aft of the wings.

B.M.W. engine is very neatly cowled in, and the sharp entry is further improved by fitting a pointed spinner over the propeller boss. The pilot is situated immediately under the top plane, and aft of the pilot's seat the roof of the fuselage rises steeply to meet the rear spar of the top plane. Notable features of the machine, apart from the fitting of leading

box spars of Duralumin and ribs of steel tubing, the covering again being in the form of fabric.

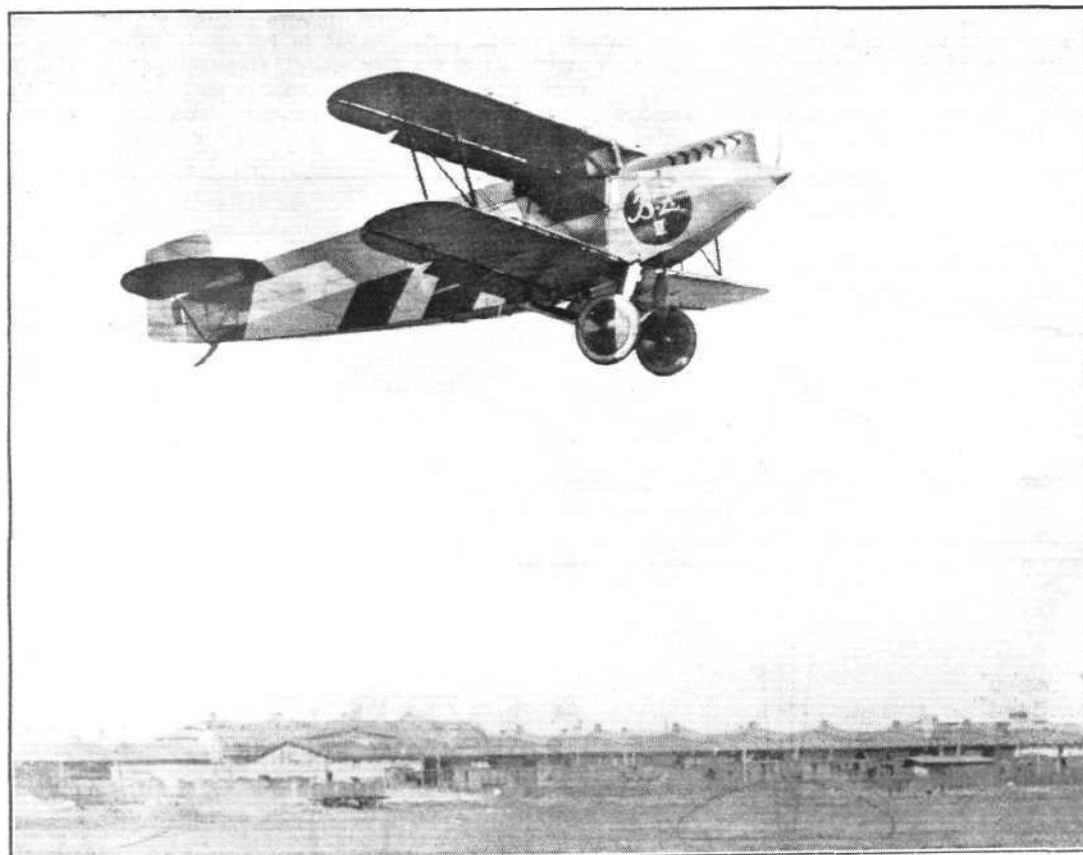
As regards the arrangement of the fuselage, the 220 h.p. B.M.W. engine is, as already mentioned, mounted in the extreme nose, and behind this is the cockpit for pilot and engineer. Aft of this again is a cabin having two windows in



THE ALBATROS L 72 A: Rear view. The petrol gravity tanks are housed in the top centre-section.

edge slots and slotted ailerons, are the high aspect ratio and the great distance from trailing edge of main planes to leading edge of tail plane, which is in the neighbourhood of three chord lengths. Both are features which should assist efficiency and stability, although it may be admitted that owing to the use of but a single pair of inter-plane struts the angles of the

each side, and with two tip-up seats for those in charge of the distribution of the newspapers. Should the machine be required as a passenger-carrier, the arrangement for dropping newspapers can be removed and two extra seats substituted. Provision has also been made whereby the pilot, by pulling a lever situated in his cockpit, can discharge the newspapers



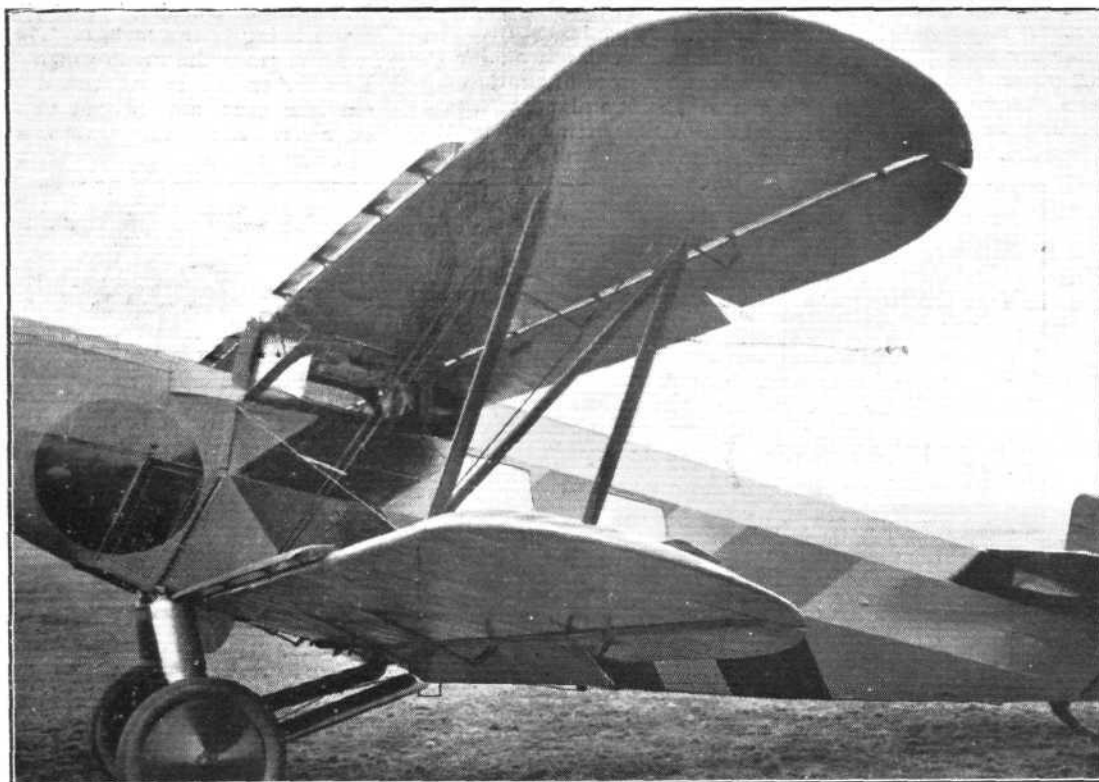
The Albatros L 72 A: The machine in flight. Note the open slots.

wing bracing wires are somewhat small. These wires, by the way, are British streamline wires, a somewhat unusual feature on a German aeroplane.

Constructionally the Albatros L 72a is of the all-metal type, with a fuselage built of welded steel tubing, diagonally braced by wire and covered with fabric, while the wings have

at any desired moment, the arrangement provided including 16 compartments, each containing a parcel weighing 10 kilograms. An indicator is also fitted in the pilot's cockpit so that from this he can see how many parcels have already been dropped. At the moment it is not clear whether the two tip-up seats in the cabin are intended for occasional

The Albatros L 72 A: This close-up view shows the leading edge slots open and the wing flaps down.

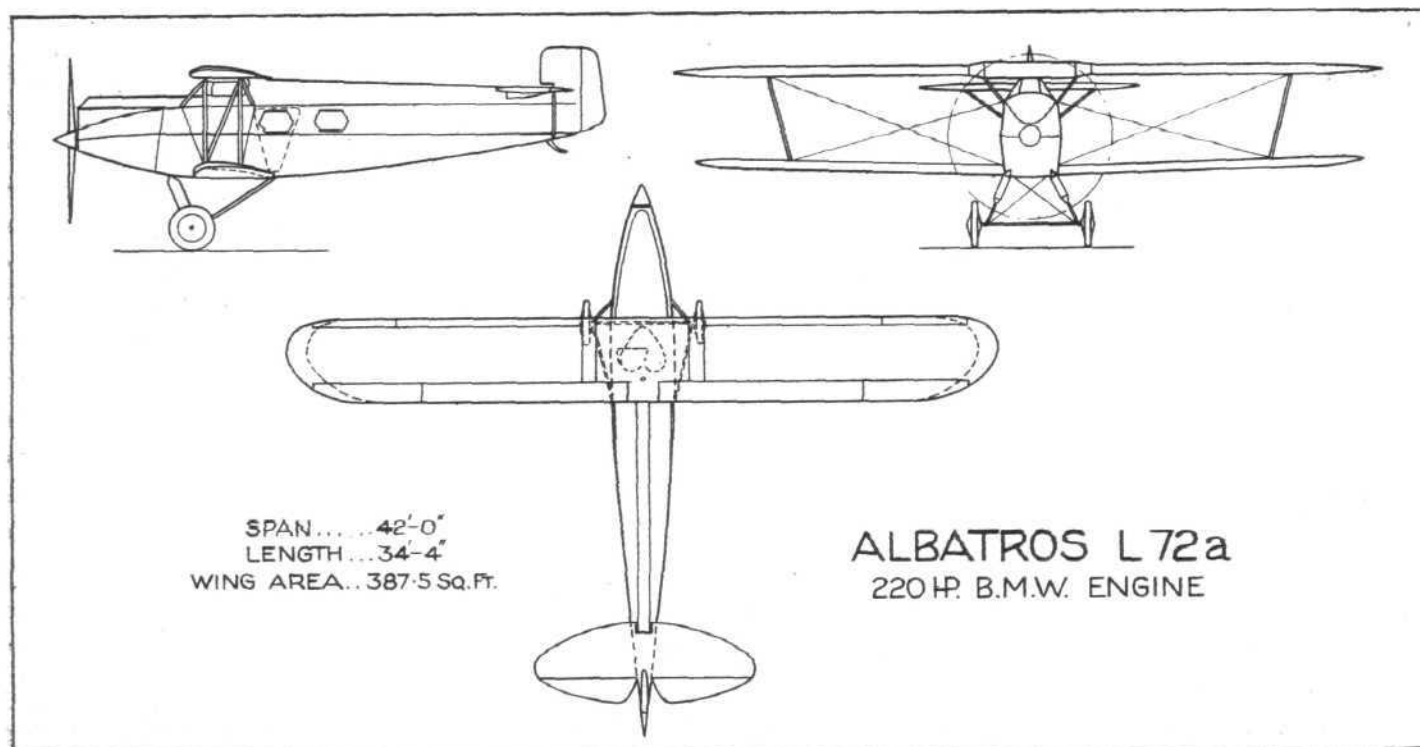


passengers, but the fact that provision has been made for enabling the pilot to drop the newspapers without aid from anyone in the cabin rather points to this being the case.

The wing construction is, as already stated, of all-metal type, except for the doped fabric covering. The upper and lower wings are identical, as are also the fittings at their roots, so that one spare wing can be used in the top plane or bottom plane as required, the centre section of the top plane having fittings to receive the wings identical with those on the bottom longerons. The section used in the wings is a semi-thick one, and except for the elliptical rounding off of the wing tips, there is no change in chord or thickness from root to some distance outside the points of strut attachment. The slotted wings incorporate the latest type of leading edge slot in which the auxiliary aerofoil is in the form of a thin Duralumin strip which lies snugly against the leading edge

when the slot is closed. The ailerons, or rather trailing edge flaps, are also slotted and are pivoted in such a way that with the trailing edge flaps down 24° the flap slot is open. The outer portion of the trailing edge flaps is retained as differential ailerons for lateral control.

Like the rest of the machine the tail surfaces are of metal construction, the material used in this case being steel tubing, although the spar of the trimming tail plane is of Duralumin. A novel feature is found in the rudder and fin, both of which are pivoted, and in such a manner that when the rudder moves to one side, the fin also pivots around a vertical axis. The object of this arrangement is to get a more powerful rudder control with smaller angular movement, and wind tunnel experiments at Göttingen appear to indicate that the increased effectiveness of the rudder obtainable by this arrangement is of the order of 40 to 50 per cent.



THE ALBATROS L 72A COMMERCIAL AEROPLANE WITH 220 H.P. B.M.W. ENGINE: General arrangement drawings, to scale. The machine is fitted with leading edge slots and slotted ailerons.

The undercarriage is of the Oleo pneumatic type, the landing shocks being absorbed by the compression of the air in the undercarriage cylinder and bouncing being damped by a normal type of Oleo gear.

It will be observed that the centre section of the top plane is rather thicker than the rest of the wings. This is accounted for by the fact that the centre section forms the main petrol tank, or rather tanks, there being two. As a result of this placing of the tanks direct gravity feed is possible and the capacity of the tanks is such as to give the machine a duration of 4½ hours at cruising speed.

The main dimensions of the Albatros L.72a are shown

on the general arrangement drawings. The weight of the machine empty is 1,300 kg. (2,860 lbs.), and the useful load is 700 kg. (1,540 lbs.), giving a total loaded weight of 2,000 kg. (4,400 lbs.). As the wing area is 36 sq. m. (387.5 sq. ft.) the wing loading works out at the rather high figure of 11.35 lbs./sq. ft. With the particular wing section employed the landing speed is stated to be 110 km. per hour (62.2 m.p.h.) but with slots open this figure is reduced to 75 km. per hour (46.6 m.p.h.), so that it would appear that the provision of the slots has been very well worth while. The top speed of the machine is given as 180 km. per hour (112 m.p.h.), and the cruising speed as 170 km. per hour (105 m.p.h.).

THE ROYAL AIR FORCE

London Gazette, April 6, 1926.

General Duties Branch

E. C. Foreman is granted a short service commn. as a Pilot Officer, on probation, with effect from and with seny. of March 13. The follg. Pilot Officers are promoted to rank of Flying Officers:—H. W. Raeburn (Sept. 3, 1925); H. B. Barrett (Feb. 8). Flight Lt. C. M. Laing, M.C., A.F.C., is restored to full-pay from half-pay (March 20); Flying Officer R. G. Mollard is transfd. to Reserve, Class A (April 4).

Stores Branch

Pilot Officer, on probation, F. W. Felgate is confirmed in rank (Feb. 10).

Reserve of Air Force Officers

Flight Lt. H. B. Pett, M.C., resigns his commn. on appt. to a commn. in Auxiliary Air Force (April 6); the commn. of Pilot Officer, on probation, D. Abbott is terminated on cessation of duty (March 17).

AUXILIARY AIR FORCE

General Duties Branch

The follg. to be Flight Lt.:—No. 601 (County of London) Bombing Squadron—H. B. Pett, M.C. (April 6).

Medical Branch

The follg. to be Flying Officer:—No. 600 (City of London) Bombing Squadron—N. P. Henderson (April 6).

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Air Commodores: D. L. G. Pitcher, C.M.G., C.B.E., D.S.O., to No. 22 Group H.Q., S. Farnborough, on appointment as Air Officer Commanding on disbandment of No. 7 Group, 12.4.26. C. L. N. Newall, C.M.G., C.B.E., A.M., to Air Ministry, Directorate of Operations and Intelligence, on appointment as Director, and Deputy Chief of the Air Staff, 12.4.26.

Wing Commanders: T. L. Leigh-Mallory, D.S.O., to No. 22 Group H.Q., S. Farnborough, for Air Staff duties, 12.4.26. F. H. Unwin, O.B.E., to No. 22 Group H.Q., S. Farnborough, for Tech. Staff duties, 12.4.26.

Squadron Leaders: F. Fowler, D.S.C., A.F.C., to Aircraft Depot, Iraq, 26.3.26. C. N. Lowe, M.C., D.F.C., to No. 1 Sqdn., Iraq, 1.4.26. J. F. Gordon, D.F.C., to No. 31 Sqdn., India, 1.4.26. J. M. Robb, D.F.C., to No. 3 Sqdn., Upavon, 15.4.26. C. H. Nicholas, D.F.C., A.F.C., to No. 22 Group H.Q., S. Farnborough, 12.4.26. H. Cockerell, O.B.E., to Armament and Gunnery Schl., Eastchurch, 13.4.26. J. H. D'Albiac, D.S.O., to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 7.3.26. A. P. Maurice, D.F.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 26.2.26.

Flight Lieutenants: J. Bussey, to No. 7 Group H.Q., Andover, 1.4.26. R. D. Starley, M.C., to Schl. of Tech. Training (Men), Manston, 6.4.26. T. S. Horry, D.F.C., to No. 5 Armoured Car Coy., Irak, instead of to Aircraft Depot as previously notified, 12.2.26. B. Ankers, D.C.M., to Schl. of Photography, S. Farnborough, 5.4.26. T. Humble, to Schl. of Photography, S. Farnborough, 6.4.26. J. M. J. C. J. I. Rock de Besombes, to No. 5 Flying Training Schl., Sealand, 6.4.26. C. K. Chaudler, M.B.E., and A. J. Osborn, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 26.2.26. G. E. Ranson, to Aircraft Depot, Iraq, 22.3.26. F. H. E. Reeve, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 15.3.26. J. Oliver, A.F.C., to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 12.3.26. A. H. Orlebar, A.F.C., J. H. Butler, A. G. Jarvis, A.F.C., and C. N. Ellen, D.F.C., to No. 22 Group H.Q., S. Farnborough, 12.4.26. E. L. Ardley, to Armament and Gunnery Schl., Eastchurch, 7.4.26.

Flying Officers: C. G. C. Woleged, to No. 45 Sqdn., Iraq, 22.2.26. H. E. Rew, to No. 208 Sqdn., Egypt, 19.3.26. J. A. Elliott, to No. 2 Sqdn., Manston, 15.4.26. R. B. Jordan, to No. 28 Sqdn., India, instead of to No. 31 Sqdn. as previously notified, 12.2.26. G. I. C. Peacocke, to No. 60 Sqdn., India, 10.3.26. A. H. D. Livock, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 17.2.26. A. F. Hutton, to No. 31 Sqdn., India, 10.3.26. G. W. R. Russell, to Aircraft Depot, India, instead of to No. 20 Sqdn., as previously notified, 12.2.26. J. C. Marcy, to No. 31 Sqdn., India, 10.3.26. D. Robinson, to No. 5 Sqdn., India, 10.3.26. C. Feather, to No. 31 Sqdn., India, 10.3.26.

H. S. Martin, to No. 27 Sqdn., India, 10.3.26. R. J. Montgomery-Moore, to Schl. of Photography, S. Farnborough, 5.4.26. J. B. Barrett, to No. 4 Sqdn., S. Farnborough, 13.4.26. H. J. Brown, to Aeroplane and Armament Experimental Estab., Martlesham Heath, 15.4.26. N. C. Ogilvie Forbes, to Schl. of Naval Co-operation, Lee-on-Solent, 6.4.26. T. B. Fenwick, to No. 12 Sqdn., Andover, 6.4.26. F. N. Hawker, to No. 5 Flying Training Schl., Sealand, 6.4.26. H. F. Jenkins, to Central Flying Schl., Upavon, 6.4.26. C. H. F. Nesbit, W. A. D. Brook, C. J. Pooley and A. E. Stewart, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 12.3.26. W. F. Davenport, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 23.3.26. G. Horsfield, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 26.3.26. J. S. L. Adams, to No. 14 Sqdn., Palestine, 18.3.26. L. G. Pinnell, D. G. Pinnell and W. P. Wiltshire, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 26.2.26. F. V. Beamish, to No. 60 Sqdn., India, 15.3.26. W. J. Brett, to Armament and Gunnery Schl., Eastchurch, 10.4.26.

Pilot Officers: J. McGuinness, to No. 55 Sqdn., Iraq, 26.3.26. P. B. Chubb, to No. 30 Sqdn., Iraq, 22.2.26. E. G. D. Stewart, M.C., to No. 70 Sqdn., Iraq, 22.2.26. B. W. Knox, to No. 8 Sqdn., Iraq, instead of to No. 30 Sqdn., as previously notified, 12.2.26. G. H. C. Keay, to remain at No. 2 Flying Training Schl., Digby, instead of to No. 5 Flying Training Schl., as previously notified. R. G. M. Hill, to No. 6 Sqdn., Iraq, 1.4.26. J. S. Blomfield, J. C. McE. Gibb and L. T. Pankhurst, to Aircraft Depot, India, 1.4.26. R. W. Holden, to No. 5 Flying Training Schl., Sealand, on transfer to Home Estab., 12.3.26. W. C. McNeil, to No. 5 Flying Training Schl., Sealand, 6.4.26.

Stores Branch

Squadron Leader: N. R. Fuller, to No. 22 Group H.Q., S. Farnborough, 12.4.26.

Flight Lieutenants: T. Surr, to No. 22 Group H.Q., S. Farnborough, 12.4.26. E. H. Eldridge and H. E. Tansley, M.C., to R.A.F. Depot, Uxbridge, 12.4.26.

Flying Officers: C. J. Polden, to R.A.F. Depot, Egypt, 16.3.26. P. H. Burt, to Supply Services (Central Supply Depot), Iraq, 11.3.26. F. D. D. Gaussen, to R.A.F. Depot, Uxbridge, 12.4.26.

Accountant Branch

Squadron Leader E. W. Gregory, M.C., to H.Q., Inland Area, 12.4.26.

Flight Lieutenant G. N. Simon, to R.A.F. Depot, Uxbridge, on transfer to Home Estab., 15.3.26.

Flying Officers: C. F. Goatcher, to No. 4 Stores Depot, Ruislip, 14.4.26. D. J. Sherlock, to Aircraft Depot, Iraq, 1.4.26. A. C. Lobley, to Record Office, Ruislip, 17.4.26.

Pilot Officer J. P. Cave, to No. 17 Sqdn., Hawkinge, 7.4.26.

The Death of Claude Johnson

It is with the very greatest regret that we have to announce this week the death, at the early age of 61, of Claude Johnson. To the Rolls-Royce Company his loss will be a serious blow indeed, the wonderful energy and quite exceptional gifts for organisation which he possessed being to a very great extent responsible for the position of pre-eminence attained by the world-renowned firm with which he was associated. Practically from the time the first motor-car was introduced into this country his interests and his work had been bound up with motoring, and although his name was known and honoured far and wide, he was of such a retiring disposition that he himself came in contact personally with comparatively but few people.

Although at one time not enthusiastic over the future of aviation, when the day came for its serious consideration, the one idea of Claude Johnson, as always, became to achieve with the Rolls-Royce aero engine the same outstanding

position which his energies had attained for the Rolls-Royce car, with what success the world already knows. His great work will remain as a fitting memorial to Claude Johnson, but those who had the privilege of really knowing him will feel that he leaves behind him a gap which can never quite be filled.

Death of Commander de Bahr

WITH the death of Commander Adolph de Bahr, Swedish Naval Attaché in London, on April 5, at 31, Palace Court, London, the British aircraft industry has lost one of its best friends. From the time of the Gothenburg Exhibition onwards, Commander de Bahr took the very greatest interest in British aviation, and his charm of manner and unfailing courtesy endeared him to all with whom he came in contact. The funeral was held on April 9 at the Swedish Church, Harcourt Street, Marylebone, and was attended, among many others, by representatives of the Society of British Aircraft Constructors.

THE HAMPSHIRE AEROPLANE CLUB

WE have received the following report from the Hon. Secretary of the Hampshire Aeroplane Club, which was formed at a meeting in the Southampton Chamber of Commerce on March 2:—

Officers of the Club—President.—The Rt. Hon. the Lord Louis Mountbatten, K.C.V.O., R.N.

Vice-Presidents.—Major-General the Rt. Hon. J. E. B. Seely, C.B., C.M.G., D.S.O.; The Rt. Hon. the Earl of Birkenhead, P.C.; The Rt. Hon. Lord Montague of Beaulieu, K.C.I.E., C.S.I., V.D., D.L.; Lord Apsley, D.S.O., M.P.; General Sir Alex. Godley, K.C.B., K.C.M.G.; Lt.-Commander Sir Warden Chilcott, M.P., J.P.; Sir Charles Wakefield, C.B.E.; His Worship the Mayor of Portsmouth; His Worship the Mayor of Winchester; Squadron-Commander Sir James Bird, O.B.E., R.N.; Rev. E. Bruce Cornford, M.A.; Colonel E. K. Perkins, C.B.E., M.P., J.P.; Noel van Raalte, Esq.; A. V. Roe, Esq., O.B.E.; S. Saunders, Esq., O.B.E.

Committee.—O. E. Simmonds (Chairman); A. N. Clifton (Hon. Secretary); R. H. Bound; A. L. Gow; R. V. Perfect; F. Stokes; A. R. Van den Bergh.

Air Council Support.—The Hampshire Aeroplane Club has applied for the outstanding sixth subsidy.

Membership.—Membership is increasing rapidly, those who wish to take advantage of reduced entrance fees will be well advised to apply very soon.

Aerodrome.—Messrs. A. V. Roe & Co., Ltd., have agreed to let to the Club their upper aerodrome at Hamble, which has a clear run of 1,100 yards in the direction of the prevailing wind. A large brick building of 31 ft. clear span, and capable of housing at least six De Havilland "Moths," is available, together with suitable club-room accommodation.

Seaplane Flying.—It is intended at a later date to extend the activities of the club to include seaplanes.

From the point of view of training marine aircraft pilots the merits of Southampton Water are obvious. In view of the fact that no aeroplane club in the country caters for this important branch of flying, it is felt that the Club fills a definite rôle in this respect and is thus particularly deserving of Air Ministry support.

A. N. CLIFTON, Hon. Secretary,
49, Bugle Street, Southampton

The British Private Aircraft Owners' Club

THE inaugural dinner of the "British Private Aircraft Owners' Club" was held on April 7, at the Royal Aero Club. Dr. Whitehead Reid, the "flying doctor" was in the chair, and 11 of the total 14 private aeroplane owners of Great Britain forming members of the club were present or represented, including Capt. Hubert Broad, the Schneider Cup pilot, Sir John Rhodes, Flight-Lieut. Soden and Mr. Stammers deputising for Mrs. Elliott-Lynn and Mr. St. Barbe for Capt. Geoffrey de Havilland, who unfortunately was unable to attend. The proceedings lasted till 11 o'clock, and an interesting discussion took place on private owners and flying. Certain members, having recently sustained minor mishaps to their machines, came in for some good-natured chaff, followed by the usual after dinner humour. It was decided to hold a meet on Whit Monday, May 24, destination to be disclosed later. All members to turn up in their machines, which will then fly in formation to Stag Lane Aerodrome, the owners afterwards proceeding to town for a club dinner. The Hon. Secretary of the club is D. Kittel, of Artillery Mansions, Westminster, S.W.1., who will be pleased to give any information regarding this club.

LIGHT 'PLANE CLUB DOINGS

London Aeroplane Club

The total flying time during the week ending April 11 was 19 hrs. 25 mins. There is still only one D.H. "Moth" available, but a second "Moth" was due for delivery on the 14th inst. and a third one on the 20th inst.

The following members had flying instruction: G. Quirk, A. R. Ogston, J. H. Saffery, G. Eady, N. J. Hulbert, O. J. Tapper, G. W. Hall, E. S. Brough, H. R. Thomas, K. V. Wright, E. D. Moss, Sir John Rhodes, E. K. Blyth, J. Barros, H. R. Presland, S. O. Bradshaw, F. P. Adams, D. H. P. Esler, Miss O'Brien, W. Hay, R. Malcolm, H. Solomon, G. Wallcousins, R. V. Banks, L. Martin, A. Lees.

The following members flew solo: W. Hay (five flights), Maj. K. M. Beaumont (three flights), Sqdn.-Ldr. M. E. A. Wright (two flights).

The D.H. "Moth" belonging to D. Kittel, which was slightly damaged when landing at Swindon last week, was quickly repaired, and Mr. Kittel was flying again during the week-end.

The Lancashire Aero Club

FLYING conditions have been good this week except on Tuesday and Friday, when high wind prevented flying.

Instruction was given by Mr. Stack to: Messrs. C. Agar, 3 hrs.; C. Brown, 1 hr. 30 mins.; Michelson, 1 hr. 25 mins.; A. Benson, 1 hr. 20 mins.; Macnair, 50 mins.; Gerrard, 45 mins.; Goodyear, 45 mins.; Hardy, 40 mins.; Wade, 40 mins.; —, 35 mins.; Smith, 30 mins.; Jowett, 25 mins.; Le-ming, 25 mins.; S. Crabtree, 25 mins.; Magnall, 25 mins.; Gatterall, 20 mins.; Slater, 20 mins.; —, 20 mins.; Wilkinson, 5 mins.

By Mr. Cantrill to: Goodyear, 1 hr. 15 mins.; Tummers, 1 hr.; Barnes, 55 mins.; Brown, 40 mins.; Gatterall, 35 mins.; Hardy, 20 mins.; Colley, 20 mins.; O. Groves, 15 mins.; H. S. Stern, 5 mins.

By Mr. Scholes to: S. Crabtree, 35 mins.; H. S. Stern, 30 mins.; Chadwick, 30 mins.; Gerrard, 30 mins.; Benson, 25 mins.

Solo flights by: S. Crabtree, 1 hr. 45 mins.; M. Lacayo, 1 hr. 35 mins.; R. R. Williams, 1 hr. 20 mins.; Smith, 55 mins.; Wilkinson, 40 mins.; Michelson, 25 mins.

One joy ride of 10 minutes was given, and tests occupied 2 hrs. 15 mins. Total dual, 22 hrs. 50 mins.; total solo, 6 hrs. 40 mins. Tests, 2 hrs. 15 mins.; joy ride, 10 mins. Total time flown, 31 hrs. 55 mins.

During the week Messrs. S. Crabtree and R. R. Williams did the necessary qualifying tests for their "A" licences, and on Saturday, P. Michelson made his first solo flight.

All three machines were in use.

The Newcastle-upon-Tyne Aero Club, Ltd.

The total time spent in the air by members during the week ending April 11 was 26 hours 40 minutes, made up as follows:—

Dual instruction under Maj. Packman, 18 hrs. 50 mins.; solo, 3 hrs. 20 mins.; "A" pilots, 1 hr. 40 mins.; test, 10 mins.; joy-rides, 2 hrs. 40 mins.

The following members had instruction: the President of the Club, Col. Sir Joseph Reed; Mrs. Marcks, Miss Leathart; Messrs. Middleton, Gibson, Peacock, Twine, Leech, George, R. N. Thompson (secondary dual), Somerville, McGuinness, Whitfield (Vice-president of the club).

"A" pilots: R. N. Thompson, N. S. Todd—the former with Mr. Bell and the latter with Miss Little and Mr. Morrow as passengers.

The soloist was Mr. Leech, who has now completed his tests for R.Ae.C. certificate.

The passengers who flew with Maj. Packman were: Mr. W. B. Ellis (Vice-president), Mrs. Armstrong, Master Armstrong, Mr. Clay, Mr. Walkinshaw, Mr. Bolam, Miss Bolam, Miss Fox, and Mr. Miesagacs.

The members of the club are very proud of their president and vice-presidents, who not only attend the aerodrome regularly but fly; and in the cases of Sir Joseph Reed and Mr. Whitfield, who are taking instruction as well as supporting the Club in other ways, the example alone is of great value.

The "Gull" is now a great source of interest to members, apart from Messrs. Ellis, Heppell and Thompson, who own it, and all are surprised at its flying qualities and graceful appearance when in the air. Certain changes in the engine have resulted in a marked improvement in its running and reliability, and it now equals the Cirrus in this respect. The machine takes off after a very short run only, climbs beautifully, and lands perfectly. Mr. Ellis and Mr. Heppell have made flights of 10 to 15 minutes' duration, though, now that a slight trouble in the petrol-pressure system has been repaired, there is no reason why they should not remain up as long as they have petrol. After they had made several flights each on Saturday, Maj. Packman took the machine up and flew for 20 minutes. He attempted a height test on Sunday, but was obliged to descend after 15 minutes on account of the severe cold, which is soon felt on account of the exposed position of the pilot during cold weather.

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CORRESPONDENCE

THREE-ENGINED MACHINES

[2133] With reference to your leading article this week it is interesting to note that "there is another school of thought which believes that if a single-engined machine has a similar (one third) surplus of power, it will enjoy the same immunity from forced landing as the three-engined machine. . . ." I feel that many of your readers besides myself would be intensely interested to know whether all the three "Rs" are taught in this school, and if so I am sure we should be grateful if you could persuade one of its "Rithmetic masters to be good enough to expound in your columns their reasons for holding this singular creed. Your use of the verb *believes* is perhaps significant—faith having been defined by an inspired school-boy (of another school probably) as "believing what you know isn't true."

I do seriously suggest that it would clear the air (of these singular machines and ideas probably) if the single-engine case were set out boldly in print by one of its apostles and subjected to the fire of criticism from your readers; I cannot see how it could do other than go up in smoke, and the heat given off might dispel the mists sufficiently to enable most of the school to read the writing on the wall.

W. E. GRAY

West Ealing,
April 10, 1926

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